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ABSTRACT

This interim evaluation report presents an overview of Dade County (Florida) systems programs--instructional assessment and management structures which provide for the acquisition of reading and mathematics skills by individual students. A survey of the programs reveals that, as of 1974, 1660 installations had accommodated approximately 50,000 second-grade through sixth-grade pupils. Discussion also provides a description of evaluative procedures used; conclusions with regard to program implementation, program effects on pupil achievement, and reading and math systems; and recommendations for the future. Appendixes include planning inventories and procedural suggestions for both reading and mathematics systems, various information-retrieval forms used, and a cost analysis of systems programs. (KS)

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1973 - 74

INTERIM EVALUATION OF DADE COUNTY'S SYSTEMS APPROACHES TO READING AND MATHEMATICS INSTRUCTION GRADES 2 - 6

PLANNING AND EVALUATION DEPARTMENT

CS 002 985

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1973-74 INTERIM EVALUATION OF DADE COUNTY'S SYSTEMS APPROACHES TO READING AND MATHEMATICS INSTRUCTION GRADES 2 - 6

Prepared by

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April, 1975

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INTRODUCTION

The improvement of basic skills instruction has been assigned priority goal status by the Dade County Public Schools. Furthermore, the improvement of reading and mathematics has been declared a major priority by the State Department of Education. Commensurately, Dade County's Division of Elementary and Secondary Education, in its continuing efforts to provide basic skills programs for enhancing a student's opportunities to achieve at or above expectation, developed two new, comprehensive, and systematic approaches to reading and mathematics instruction.

These new approaches, the Dade Reading Systems and the Dade Mathematics Systems, were first piloted and field-tested during the 1971-72 school year at selected elementary schools within the county. During the 1972-73 school year, Dade County Systems programs were used by 900 teachers with 26,500 students. As of February, 1974, there were 1,660 Dade Systems installations which accommodated 50,000 students. Projections for the 1974-75 school year indicated that approximately 2,000 teachers at 172 different school sites would be using the Systems approach with 70,000 reading and/or mathematics students.

In addition to the 1,660 Dade Systems installations, there were 319 commercial and/or teacher designed systems programs installed during 1973-74. Also, there were approximately 1,600 additional classrooms where no systems programs were installed (Non-Systems classrooms).

This interim evaluation report presents an overview of Dade County's Systems programs, a summary of the degree of implementation of those programs as of February, 1974, and a comparative analysis of the adjusted average achievement gains made by Dade County Systems, commercial systems, and non-systems program participants. Also a cost analysis of the various systems programs, Dade's and others, is provided.

OVERVIEW OF DADE COUNTY SYSTEMS

Dade County's Systems Approach to Reading and Mathematics is an instructional assessment/management structure which provides for the acquisition of appropriate reading and mathematics skills by individual pupils. Systems includes an organized series of skills stated as performance objectives, assessment tests to indicate mastery of these objectives, and instructional materials and procedures designed to teach the identified skills which individual pupils require in order to achieve mastery of the objectives. Systems is really two programs, Dade Reading Systems and Dade Mathematics Systems.

Dade County Reading Systems

This system includes provisions for the testing of both decoding (word attack) and comprehension skills. It contains decoding and comprehension objectives which are assigned to categories and are assessed in pupil assessment booklets. Placement tests are available also, one for decoding and one for comprehension. In addition to the pupil assessment materials referred to above, the following reading systems components are included: 1) a teacher's manual, 2) keycoded reference catalogue , 3) individual pupil profile cards, 4) a group profile record book, 5) answer booklets, 6) two administrative manuals, and 7) a set of teacher training modules. A comprehensive description of the Dade Reading Systems can be found in the Division of Elementary and Secondary Education booklet, Dade County Reading Systems: Overview.

Dade County Mathematics Systems

The State of Florida within its State Assessment Project developed a set of objectives, K-12, which provided basic guidelines for mathematics instruction within the state. Those objectives were adopted by Dade County as the objectives for its math systems program. Further, in order to make the objectives which span K-8 more manageable, the objectives were placed in 28 developmental levels and cover the complete

span of mathematical concepts.

Dade Mathematics Systems, like the Dade Reading Systems, contains diagnostic placement tests, student profile instructional prescription sheets, keycoded references to instructional materials for developing specific skills, administrative manuals, and teacher training modules. For a detailed overview of Dade Math Systems, consult the Division of Elementary and Secondary Education's Dade County Systematic Approach to Elementary Mathematics Instruction.

Significantly, both the reading and the math systems were designed to utilize most of the instructional materials and equipment traditionally housed in elementary schools.

Commercially Produced Systems Programs

In addition to Dade's, there were a substantial number of commerical reading and math systems which had been installed throughout the county. Those commercial systems which were thought to have been installed on a broad enough scope to become part of the evaluation are listed below:

Reading	Mathematics
Wisconsin	Individualized Math System (IMS)
High Intensity	* Individualized Program Instruction (IPI)
READ	* Appleton Century Croft
* Criterion	
* Fountain Valley	
* Appleton Century Croft	

Some individual schools and/or individual teachers developed systems-like programs and these are referred to as other (teacher designed) systems for the purposes of this study.

* The asterisked commercial systems were excluded from the Cost Analyses due to an insufficient number of installations.

DESCRIPTION OF THE EVALUATION

This is an interim evaluation report, the intent of which is to provide a mid-point status check on: 1) efforts to implement systems programs, and 2) the comparative effects on pupil progress for systems program participants (Dade County's Systems and others). This report also presents a cost analysis of various sytems programs.

IMPLEMENTATION

Data relevant to the scope of the implementation of systems were generated from observations of classrooms which had been identified by school level administrative staffs as those classrooms where a systems approach was being used for reading and/or math instruction. For purposes of the initial identification of systems installations, a systems class was defined as a classroom where the teacher was collecting diagnostic data on individual pupils.

The observations, which were organized and conducted by the Division of Elementary and Secondary Education in conjunction with administrative area staffs, served the main function of identifying classrooms where curriculum support services could best be utilized. Concurrently, the accuracy of the systems classifications was confirmed or denied.

An additional function of the classroom observations was to determine which of the systems installations had been fully implemented. For the purpose of this study, a fully implemented systems installation was one which evidenced seven out of seven components considered necessary in fully implementing either a reading or math systems installation.

The seven essential systems components are as follows:
1) Diagnostic data had been recorded on group or individual profiles. 2) Assessment booklets and/or answer sheets were in evidence. 3) Individual activities and/or teacher-directed instructional activities were based on diagnostic information. 4) Pupils working independently on assigned tasks were able to successfully perform the task. 5) There

was evidence of organized pupil activity. 6) Provision for immediate feedback on pupils' independent work was in evidence. 7) There was evidence of regular library and trade book reading.

Components one through six were essentially the same for reading and math installations; however, the seventh component listed above was applicable only for reading. The seventh math component asked for evidence of learning centers.

Copies of the planning inventories for the reading and math systems approach (observation forms), which include the operational status of each specific systems component, are included in this report as Appendices A-1 and A-3.

PUPIL PROGRESS

Essentially, this evaluation effort sought answers to the following questions in relation to pupil progress:

First, did Dade County Systems pupils perform as well on reading and/or math achievement tests as non systems pupils (pupils who were taught reading and mathematics in classrooms where there were no identifiable systems programs)?

Second, did the achievement patterns in either reading or mathematics vary substantially for groups of Blacks, Spanish Language Origin, or Other pupils as a result of their participation in specific systems programs - Dade County's or others?

Third, how well did Dade Systems participants perform on achievement tests in relation to participants of systems reading and math programs other than Dade County's?

Testing

Data relevant to the above questions were generated from the county-wide testing programs involving the math computation and paragraph meaning subtests of the Stanford Achievement Test (SAT), a nationally standardized test administered to all students in grades one through twelve.

Selection of Sample

All pupils in grades two through six who had participated in Dade County's testing program in May of 1973 and again in May of 1974 were included in these analyses as members of either Dade Systems, commercial systems, or non-systems programs.

Procedures for associating a specific pupil with a specific treatment (type of reading or math instructional program) included the following: First, teachers who had collected diagnostic data on individual pupils (a minimal requirement for qualifying as a systems program) were requested to send in rosters of pupils who had participated in a specific systems reading and/or mathematics program for at least five consecutive months.

Next, those pupil rosters were then separated into two groups, those which had been involved in fully implemented systems installations and those which had not. Only the reading and math achievement results of pupils from the fully implemented systems programs were utilized in comparing systems programs and non systems programs effects. Copies of the form used by teachers for submitting names of pupils and relevant program information are included in this paper as Appendices B-1, B-2, B-3, B-4.

Finally, non-systems pupils (pupils who were not involved in a systems reading or math program) had to be identified. This was accomplished by subtracting all pupils who had participated in any type of systems program from the complete listing of pupils enrolled in grade levels two through six (Total pupils grades 2 through six)- (Total systems pupils) = (Non systems pupils)

Data Analysis

Equalization of significant pre-treatment characteristics (grade level, gender, ethnicity, test form, and pretest scores) of the student members of the various treatment groups (Dade Systems, commercial systems, and non-systems programs) was essential for meaningfully comparing the effects of the various programs on reading and math achievement scores. The procedure employed, in an effort to equalize the above mentioned pre-treatment pupil characteristic, was developed

by the Evaluation Section for use in its analysis of countywide achievement results and was elaborated in the report entitled Achievement in Dade County Schools 1972-73, pages 3-5. Portions of that elaboration are included below for purposes of clarification:

> In Dade County, the procedure of comparing a student's score with expectations based upon pupils of similar background and identical achievement scores is carried out on a massive scale. Every pupil who participated in the testing program for two successive years is examined for the degree to which his (her) current achievement differs from expectations determined from his background and previous achievement.
>
> As an example of this procedure, a student in fourth grade in school Z during 1972-73 would have his (her) reading score compared to the following expectation
>
> > The 1972-73 average reading score for all the pupils in the county in 1971-72 who were of the same sex, the same ethnic origin, were third graders, took the same form of the Stanford Achievement Test in reading and scored the exact reading score in 1971-72.
>
> A second expected score would be determined for the student's mathematics achievement in the same manner.
>
> The student's 1972-73 actual or "attained" reading and mathematics scores are compared to the expected scores by a simple subtraction. This yields difference scores which may indicate the pupil is achieving higher, equal to, or lower than was expected for him (her) in each of the areas, reading and mathematics.
>
> At any particular grade level in a particular school, these differences between student achievement scores and expected achievement scores are averaged to yield a grade profile. This profile shows whether the grade, as a whole, has equalled or surpassed expectations based on the manner in which similar students are achieving elsewhere in the county.
>
> The expected and actual scores are shown in this report accompanied by a graphic representation of the difference between the two sets of scores for each school in the county.
>
> This procedure overcomes the disadvantage of failure to compare the same pupils over time--noted in the previous methods of interpretation. The procedure, however, does have its peculiar limitations. Since the basis of the method is to compare scores for students who have scored exactly the same way in the previous year, the lack of previous year results available for first grade pupils prevents a derivation of expected scores at the first grade

level. Without derived expected scores for this grade level, the method cannot be used to compare first grade instructional success from one school to another.

A second inherent disadvantage of the process derives from the error which individual pupil scores may have. A valid comparison of one student's score to a cluster of pupils' scores is very much dependent upon the accuracy with which the initial clustering took place. This clustering, in the expectancy procedure, is contingent upon the apparent identical scores in the preceding year's achievement tests. If, for some reason, the student does not score at a true achievement capability, the pupil will be falsely grouped with other students for comparison purposes.

Unfortunately, there is a large capacity for this type of error in the early grades. There is such a constriction in the range of possible scores at the first and second grade levels that many pupils who will demonstrate different achievement patterns at a later point in time attain the same score in these early grades. These students consequently are incorrectly clustered for comparisons in the subsequent year.

When the procedure is applied to large numbers of pupils, especially in the higher grades, this error becomes insignificant. The process is a potentially powerful one for identifying schools where the instructional process is having notable effects, but its limitations in the early grades are real ones (sic).

Cost Analyses of Systems Programs

A cost analysis of the following systems programs were prepared.

Reading	Mathematics
1. Dade County Systems	5. Dade County Systems
2. READ Systems	6. Individualized Mathematics System
3. Wisconsin	
4. High Intensity	

Due to an insufficient number of installations countywide, several commercial systems identified in the general study were not included in the cost analyses.

Cost analysis data were based upon available price lists, bids and discussions with school board employees familiar with the various systems. Costs of implementation in a hypothetical elementary school (i.e., 600 pupils and 30 pupils per class) were analyzed on two assumptions:

1. That the system would be implemented on a laboratory basis (one laboratory for each 150 students); and
2. That the system would be implemented in individual classrooms.

Because both consumable and non-consumable materials are involved, costs were calculated for each system as follows:

1. Total six year costs; and
2. Average annual cost per pupil

Exhibit A summarizes the costs of the various systems considered, while Exhibit B summarizes the resources included in the cost of each system, and exhibits C through H identify costs of detailed components of each system.

CONCLUSIONS

PROGRAM IMPLEMENTATION

Prior to addressing the question of the effectiveness of the systems programs on reading and/or math achievement, it was necessary to identify those classrooms where a systems approach was being used for reading and math instruction. In order to support the identification process, trained teams of observers dispatched from the administrative area offices made observations in every elementary school in the county and at nearly 3,000 specific installations. Copies of the observation forms which contain the seven systems components for qualifying an installation as being a fully implemented systems program are included as Appendix A.

The implementation characteristics of systems programs which were evidenced by the on-site observations are presented in tabular form in the results section which follows. The following conclusions have been reached about the data:

1. Dade County Reading and Math Systems had been widely implemented by February, 1974. Examination of Table I-A, page 17, indicates that 27 percent of the classrooms had Dade Reading and 26 percent had Dade Math Systems installations. Also, examination of Tables I-B-1 through I-B-6 show that the overwhelming majority of schools countywide had at least one systems reading and one math installation.

2. The majority of the reading and math systems programs which had been installed by February, 1974, were Dade County's. Also, most of those programs were judged to have been fully implemented (evidenced seven out of seven systems installation components). Examination of Table I-C discloses that 72 percent of the Dade Reading and 78 percent of the Dade Math Systems installations were judged to be fully implemented as of February, 1974.

3. Most Dade County Systems programs were installed in classrooms containing pupils from a single grade level rather than in classrooms housing pupils from two or more grade levels. Also there was a tendency to decrease the number of systems installations as the grade level increased.

PROGRAM EFFECTS ON EXPECTED PUPIL ACHIEVEMENT

Dade County's Systems Approach to Reading and Mathematics instruction is comprehensive in scope, complex in structure and innovative procedurally. Typically, programs of such magnitude, designed to bring about positive change in broad basic skills areas, need at least three years of solid operation before measurements in student performance can be considered other than as indicators for action for continuing program development.

Although the 1973-74 school year represented the second year of concerted effort to implement Dade Systems, it represents the first year of being fully implemented for many of the classrooms presented in this evaluation, and the first year of involvement for many program participants. Therefore, the following conclusions and the resultant recommendations should be considered as interim and not final judgments about Dade Systems.

Also, it should be pointed out that, while each mean difference that appears in the following results section is statistically significant, the differences (except for patterns) are not necessarily programatically practical; for example, the fractional part of a year difference of +.04 can be transformed into (+.04 x 180) or seven instructional days of difference in favor of Systems, an extremely limited statistic for translation into action for program change.

Reading Systems

Examination of Table II-A-C pages 26 - 30 suggests the following general conclusions:

1. Overall, Dade County Reading Systems pupils benefited to a slightly greater degree (achieved higher adjusted mean gain reading scores) than did non-systems participants.
2. Examination of the results by ethnic clusters indicates that, with the exception of slight negative results (9-12 instructional days difference) for the Spanish Language Origin pupils at grade levels four and five, Dade Reading

Systems pupils within all ethnic clusters benefitted to a greater degree than did their Non Systems reading program counterparts.

3. Examination of Table II-B indicates there were too few installations of the majority of the commercial reading systems (Wisconsin, Criterion, Fountain Valley and Appleton Century Croft) for making valid countywide program comparisons. High Intensity pupils at grades three and five and READ pupils at grade levels two, three and four had performed as well as Dade Systems pupils. More specifically, the READ and High Intensity systems appear to provide viable alternatives to the Dade Reading system for teaching reading skills to Black and Other pupils. Examination of Table II-C indicates, however, that neither system was sufficiently beneficial to Spanish Language Origin participants.

Mathematics Systems

Examination of Tables II-A, D and E pages 26, 34, 35, suggests the following general conclusions:

1. Overall, the Dade Mathematics System proved slightly less beneficial to its participants than did participation in non-systems math instructional programs. Examination of Table II-A indicates that the total (all ethnic groups combined) Dade Mathematics Systems pupils achieved slightly lower mean gain scores at grade levels two through six than did their non-systems counterparts.

2. Further examination of Table II-A generally suggests that Dade Math Systems participants, within all ethnic clusters, benefited slightly less than their non-systems math program counterparts.

3. Examination of Table II-D suggests that the Individualized Mathematics Systems (IMS) program participants demonstrated achievement patterns at grade levels, four through six similar to the pattern of Dade Math Systems participants. While there were too few commercial math systems installations for definitively generalizing across ethnic clusters, examination of math achievement by ethnic cluster for the comparative effects of these commercial systems (Table II-E) suggests that two systems may have proved beneficial to their participants. Specifically, the Individualized Program of Instruction (IPI) proved more beneficial to Other participants than either Dade Math Systems or non-systems math programs at grade levels three through six. The Appleton Century Croft math system proved more beneficial for Black participants at grades three, five and six than either Dade Math Systems or non-systems programs.

   The preceding interpretation of the data by ethnic clusters are subject to severe limitation due to the small number of schools/classes involved in this aspect of the study. Namely, some schools consistently achieved above (+) while others

consistently achieved below (-) expectation, supporting the assumption that the school can be a significant variable in accounting for above or below expected pupil achievement. The data for these ethnic comparisons came from no more than two schools; therefore, it's possible the above expected achievement was due to the school variable rather than the specific math system.

RECOMMENDATIONS

1. The Dade Reading Systems Program, overall, was functioning well and has proved beneficial to those pupils who were involved in it. Therefore, efforts to expand the system countywide should be vigorously pursued. Also, program developers should continue their efforts to upgrade their installations--particularly, for Spanish pupils at grade levels four and five.

2. Dade Math Systems participants did not perform as well as was anticipated. Overall, they achieved less well than their non-systems counterparts. However, it should be noted at this point that the Dade Math System was an imcomplete program until September of the 1974-75 school year. Prior to that time only the whole numbers component was available for implementation. Consequently, instruction in the remaining Dade Math System components--fractions, decimals, ratios, percents, geometry and measurement--had to be provided outside the systems approach. Dade Math limited use of the total program may, in part, have accounted for the relatively poor performance of Dade Math Systems participants. Therefore, the following actions are recommended:

   First, the division of Elementary and Secondary Education should continue its efforts to improve the quality of math instruction provided by presently installed Dade Math System programs.

   Second, efforts to increase the number of Dade Math Systems installations countywide should be maintained. Precautions should be taken, however, to insure quality control of the new installations.

3. Several of the commercial systems programs, namely, the READ and High Intensity Reading System, and the IPI and Appleton Century Croft math programs appeared beneficial for specific ethnic clusters at specific grade levels. Prior to extensive

implementation of these systems, however, it would be advisable to conduct a comprehensive study of the effects of these programs on all ethnic clusters at grade levels two through six.

4. The 1973-74 school year marked the completion of the second of five years planned for countywide implementation of systematic approaches to reading and mathematics instruction. Additional analyses of the effects of systems programs on pupil progress have been planned for the 1974-75 and 1975-76 school years. In addition, valuable curriculum support data could be generated by examining the quality as well as the completeness of systems installations during the month of November, 1975. It is also suggested that this effort be carried out in cooperation with the county and administrative area staffs in conjunction with their continuing efforts to provide appropriate support of curriculum development and maintenance.

RESULTS

Table I-A

PERCENTAGE OF TOTAL CLASSES (GRADES 2 - 6)
WHERE DIAGNOSTIC DATA HAS BEEN COLLECTED ON INDIVIDUAL PUPILS
BY TYPES OF SYSTEMS AND BY ADMINISTRATIVE AREA

ADMINISTRATIVE AREA	Total Classes Grades (2-6)	READING			MATHEMATICS			TOTAL ALL SYSTEMS
		DADE	OTHER	TOTAL	DADE	OTHER	TOTAL	
NORTHEAST	307	(67) 22%	(43) 14%	(110) 36%	(46) 15%	(56) 18%	(102) 33%	(212) 35%
NORTHWEST	541	(187) 34%	(9) 2%	(196) 36%	(121) 21%	(40) 7%	(161) 30%	(357) 34%
NORTH CENTRAL	539	(148) 27%	(31) 6%	(179) 33%	(165) 31%	(8) 2%	(173) 32%	(352) 32%
SOUTH CENTRAL	627	(112) 18%	(48) 7%	(160) 25%	(152) 24%	(4) 1%	(156) 25%	(316) 25%
SOUTHWEST	562	(188) 33%	(38) 7%	(226) 40%	(151) 27%	(31) 6%	(182) 32%	(408) 36%
SOUTH	532	(154) 29%	(10) 2%	(164) 31%	(169) 32%	(1) 2%	(170) 32%	(334) 31%
ALL AREAS COMBINED	3108	(856) 27%	(179) 6%	(1035) 32%	(804) 26%	(140) 5%	(944) 31%	(1979) 32%

Note: Number counts are in parentheses

Table I-B-1

THE TOTAL NUMBER OF SYSTEMS INSTALLATIONS AND
THE NUMBER OF * FULLY IMPLEMENTED SYSTEMS INSTALLATIONS
BY SCHOOL AND BY ADMINISTRATIVE AREA AS OF FEBRUARY, 1974

TYPE SYSTEM	DADE				OTHER				TOTAL	
SUBJECT	READ		MATH		READ		MATH		TOTAL	
SCHOOLS Northeast Area	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.
Bay Harbor El.	0	0	0	0	8	8	5	5	13	13
Biscayne El.	2	1	2	2					4	3
Biscayne Gardens El.	1	1	0	0			8	8	9	9
Bryan El. θ	14	7	0	0			14	8	28	15
Fienberg El.	1	1	4	3	6	6			11	10
Fulford El.	3	0	1	0					4	0
Gratigny El.	1	1	1	1	5	1			7	3
Greynolds Park El.	3	2	1	0			3	2	7	4
Hibiscus El.	5	5	2	2	3	3			10	10
Highland Oaks El.	2	0	6	0					8	0
Ives El.	4	4	0	0			5	3	9	7
Natural Bridge El.	2	1	4	1	3	2			9	4
Norland El.	5	4	2	2					7	6
North Beach El.	2	2	3	2					5	4
North Miami El.	5	1	5	5	12	6			22	12
Norwood El.	0	0	1	1			4	4	5	5
Oak Grove El.	6	2	2	2					8	4
Ojus El.	2	2	2	2			2	2	6	6
Parkway El.	4	4	6	6	3	3			13	13
Sabal Palm El.	3	3	0	0	2	2	15	6	20	11
South Beach El.	1	1	1	1	1	1			3	3
Treasure Island El.	1	1	3	3					4	4
TOTALS	67	43 64%	46	33 72%	43	32 74%	56	38 68%	212	146 69%

* Note: Fully implemented systems classes were those that had seven systems components implemented out of seven components observed.

Legend: Δ = ESAA Schools
θ = Quinmester Schools
† = Title I Schools

Comment I-B-1: As of February, 1974, all but one school in the Northeast administrative area had at least one systems reading and math installation, and 69% of those installations were fully implemented.

Table I-B-2

THE TOTAL NUMBER OF SYSTEMS INSTALLATIONS AND
THE NUMBER OF * FULLY IMPLEMENTED SYSTEMS INSTALLATIONS
BY SCHOOL AND BY ADMINISTRATIVE AREA AS OF FEBRUARY, 1974

TYPE SYSTEM	DADE				OTHER				TOTAL	
SUBJECT	READ		MATH		READ		MATH		TOTAL	
SCHOOLS Northwest Area	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.
Brentwood El.	3	3	4	2					7	5
Bunche Park El. Δ	6	5	2	2					8	7
Carol City El.	3	3	8	8					11	11
Crestview El.	1	1	1	1					2	2
DuPuis El.	5	4	5	3					10	7
Earhart El.	13	12	5	5					18	17
Flamingo El.	1	1	2	2					3	3
Golden Glades El. Δ †	3	3	3	3					6	6
Lake Stevens El.	14	9	8	7			8	8	30	24
Meadowlane El.	3	3	1	1					4	4
Miami Gardens El.	4	3	6	6			3	3	13	12
Miami Lakes El.	8	8	8	8					16	16
Milam El.	3	3	3	3					6	6
Myrtle Grove El.	10	3	1	1	2	0			13	4
N. Carol City El.	3	0	6	3					9	3
North County El. †	10	4	5	5					15	9
North Glade El.	11	7	3	3			7	7	21	17
North Hialeah El. Θ	11	11	6	3					17	14
N. Twin Lakes El.	3	3	1	0					4	3
Opa-Locka El.	8	8	6	4					14	12
Palm Lakes El.	8	8	6	5	5	5	11	0	30	18
Palm Springs El.	9	9	3	3					12	12
Palm Springs N. El.	4	4	3	3			10	10	17	17
Parkview El.	8	8	2	2			1	1	11	11
Scott Lake El.	3	2	4	3					7	5
Skyway El.	14	6	9	8	1	1			24	15
Twin Lakes El.	7	7	2	2	1	1			10	10
Walters El.	9	8	2	0					11	8
Rainbow Park El.	2	2	6	6					8	8
TOTALS	187	148 80%	121	102 86%	9	7 78%	40	29 73%	357	286 81%

* Note: Fully implemented systems classes were those that had seven systems components implemented out of seven components observed.

Legend: Δ = ESAA Schools
Θ = Quinmester Schools
† = Title I Schools

Comment I-B-2: All schools in the Northwest administrative area had at least one systems reading and math installation for an area total of 357 installations, 81% of which were fully implemented.

Table I-B-3

THE TOTAL NUMBER OF SYSTEMS INSTALLATIONS AND
THE NUMBER OF * FULLY IMPLEMENTED SYSTEMS INSTALLATIONS
BY SCHOOL AND BY ADMINISTRATIVE AREA AS OF FEBRUARY, 1974

TYPE SYSTEM	DADE				OTHER				TOTAL	
SUBJECT	READ		MATH		READ		MATH		TOTAL	
SCHOOLS North Central Area	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.
Arcola Lake	4	1	5	5					9	9
Blanton El.	13	13	7	5	1	1			21	19
Bright El.	11	8	1	1					12	9
Broadmoor El. †	5	4	16	9					21	13
Curtiss El. Θ †	9	7	7	5					16	12
Drew El. Δ †	4	4	5	5					9	9
Edison Park El. †	0	0	23	16	22	14			45	30
Evans El. Δ †	1	1	0	0			6	5	7	6
Franklin El.	3	1	3	3					6	4
Gladeview El. Δ	0	0	3	3	1	1			4	4
Hialeah El.	4	3	0	0					4	3
Holmes El. †	2	2	4	3					5	5
Johnson El.	1	1	0	0					1	1
King El. †	3	3	4	4					7	7
Lakeview El.	6	6	0	0					6	6
Liberty City El. Δ †	7	7	4	4					11	11
Little River El. †	0	0	6	6	5	5			11	11
Lorah Park El. Θ †	13	13	14	14					27	27
Miami Park El.	5	5	11	9			1	0	17	14
Miami Shores El.	2	2	4	4					6	6
Miami Springs El.	10	7	7	4					17	11
Morningside El.	1	1	1	0			1	1	3	2
Olinda El. Δ †	5	5	2	2					7	7
Orchard Villa El. Δ †	3	3	5	4					8	7
Poinciana Park El. Δ	2	2	8	8	2	2			12	12
Primary C El. †	2	2	3	3					5	5
Shadowlawn El. †	4	3	6	5					10	9
South Hialeah El.	3	2	5	5					8	7
Springview El.	3	3	5	4					8	7
W. Little River El. Δ †	9	9	3	3					12	12
Westview El. Δ	4	3	2	2					6	5
Young El.	9	7	0	0					9	7
M. Edison Middle Θ	0		2	2					2	2
TOTALS	148	132 89%	165	138 84%	31	23 79%	08	06 75%	352	299 85%

* Note: Fully implemented systems classes were those that had seven systems components implemented out of seven components observed.

Legend: Δ = ESAA Schools
Θ = Quinmester Schools
† = Title I Schools

Comment I-B-3: As of February, 1974, four schools in the North Central administrative area did not have systems math installations and one school lacked a systems reading installation. There were a total of 352 systems installations in the area and 85% of those were fully implemented.

Table I-B-4

THE TOTAL NUMBER OF SYSTEMS INSTALLATIONS AND
THE NUMBER OF * FULLY IMPLEMENTED SYSTEMS INSTALLATIONS
BY SCHOOL AND BY ADMINISTRATIVE AREA AS OF FEBRUARY, 1974

TYPE SYSTEM	DADE				OTHER				TOTAL	
SUBJECT	READ		MATH		READ		MATH		TOTAL	
SCHOOLS South Central Area	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.
Allapattah El. Δ †	0	0	4	4	6	6	1	1	11	11
Auburndale El. ⊖	10	10	10	10					20	20
Bethune El. †	1	1	3	3	8	3			12	7
Buena Vista El. †	0	0	9	2	9	4			18	6
Carver El. Δ	0	0	2	2	2	2			4	4
Citrus Grove El. †	6	4	6	6					12	10
Coconut Grove El.	2	0	3	2					5	2
Comstock El. †	16	6	26	25					42	31
Coral Gables El. Δ	9	3	13	5					22	8
Coral Way El.	2	0	3	2					5	2
Dade El.	2	2	2	2					4	4
Douglas El. †	3	3	7	7	2	2			12	12
Dunbar El. †	3	3	4	1	2	1			9	5
Earlington Hgts. El Δ †	4	1	8	7	3	3			15	11
Flagler El.	4	4	4	4					8	8
Floral Hgts. El. †	2	0	2	1	3	2	2	2	9	5
Highland Park El.	0	0	0	0					0	0
Kensington Park El.	5	3	5	3					10	6
Key Biscayne El.	11	8	6	6					17	14
Kinloch Park El.	4	4	4	2					8	6
Melrose El. †	2	0	3	3	2	2			7	5
Merrick El.	1	0	1	1	0	0			2	1
Miramar El. †	0	0	0	0					0	0
Pharr El. †	4	3	5	5	1	1			10	9
Riverside El. †	0	0	3	1	2	2			5	3
Santa Clara El. †	1	1	2	1	1	1			4	3
Shenandoah El.	4	4	3	3					7	7
Silver Bluff El.	1	1	1	1					2	2
Southside El.	1	1	1	1					2	2
Sunset El.	3	3	2	2					5	5
Tucker El. Δ	3	3	2	2					5	5
West Dunbar El. †	1	1	2	2	2	0			5	3
West Laboratory El.	4	1	3	3					7	4
Wheatley El. †	3	1	3	3	4	3			10	7
Allapattah Jr. (6 th)	0	0	0	0	1	1	1	1	2	2
TOTALS	112	71 63%	152	122 81%	48	33 72%	04	04 100%	316	230 74%

* Note: Fully implemented systems classes were those that had seven systems components implemented out of seven components observed.

Legend: Δ = ESAA Schools
⊖ = Quinmester Schools
† = Title I Schools

Comment I-B-4: Two schools in the South Central administrative area had neither systems reading or systems math installations. There were a total of 316 systems installations throughout the area and 74% of those were fully implemented.

Table I-B-5

THE TOTAL NUMBER OF SYSTEMS INSTALLATIONS AND
THE NUMBER OF * FULLY IMPLEMENTED SYSTEMS INSTALLATIONS
BY SCHOOL AND BY ADMINISTRATIVE AREA AS OF FEBRUARY, 1974

TYPE SYSTEM	DADE				OTHER				TOTAL	
SUBJECT	READ		MATH		READ		MATH		TOTAL	
SCHOOLS Southwest Area	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.
Banyan El.	1	0	2	2					3	2
Blue Lakes El.	11	5	9	9					20	14
Coral Park El.	7	7	3	3					10	10
Coral Terrace El.	4	4	3	2					7	6
Cypress El.	13	9	18	7					31	16
Emerson El.	2	2	3	3					5	5
Everglades El. θ	17	10	17	8					34	18
Fairchild El.	7	7	0	0					7	7
Fairlawn El.	4	4	2	1					6	5
Flagami El.	3	0	3	3					6	3
Greenglade El.	8	5	11	11					19	16
Kendale El.	8	8	17	12					25	20
Kenwood El.	2	2	0	0					2	2
Leewood El.	9	5	14	10	15	13	3	0	41	28
Ludlam El. Δ	7	5	9	8					16	13
Martin El.	12	7	4	4					16	11
Olympia Hgts. El.	0	0	2	2					2	2
Rockway El.	2	2	1	0			1	0	4	2
Royal Green El.	25	10	3	0					28	10
Royal Palm El.	3	3	3	3					6	6
Seminole El.	6	1	3	2					9	3
Snapper Creek El.	3	3	7	6					10	9
South Miami El	4	4	3	3					7	7
Sunset Park El	16	16	0	0	23	23	25	25	64	64
Sylvania Hgts El	1	0	1	1					2	1
Tropical El	8	5	5	4					13	9
Village Green El	1	1	6	6			2	0	9	7
Vineland El	4	4	2	2					6	6
TOTALS	188	129 68%	151	112 74%	38	36 88%	31	25 81%	408	302 73%

* Note: Fully implemented systems classes were those that had seven systems components implemented out of seven components observed.

Legend: Δ = ESAA Schools
θ = Quinmester Schools
† = Title I Schools

Comment I-B-5: Two schools in the Southwest administrative area had no systems math classes. There were a total of 408 systems installations in the area and 73% of those were fully implemented.

Table I-B-6

THE TOTAL NUMBER OF SYSTEMS INSTALLATIONS AND
THE NUMBER OF * FULLY IMPLEMENTED SYSTEMS INSTALLATIONS
BY SCHOOL AND BY ADMINISTRATIVE AREA AS OF FEBRUARY, 1974

TYPE SYSTEM	DADE				OTHER				TOTAL	
SUBJECT	READ		MATH		READ		MATH		TOTAL	
SCHOOLS South Area	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.	# Impl.	# Fully Impl.
Air Base El.	5	1	5	1					10	2
Avocado El. Δ	6	2	6	5					12	7
Bel-Aire El. †	7	3	7	4					14	7
Caribbean El.	14	7	27	17					41	24
Colonial Drive El.	5	1	9	6					14	7
Cooper El. †	5	5	3	3					8	8
Coral Reef El.	4	3	6	4			1	1	11	8
Cutler Ridge El.	7	7	8	7					15	14
Florida City El. †	4	3	4	3					8	6
Goulds El. †	3	1	3	2					6	3
Gulfstream El.	2	1	3	3					5	4
Howard Drive El.	6	3	4	2					10	5
Leisure City El. Δ	7	3	8	5					15	8
Lewis El. Δ †	7	3	12	8	6	5			25	16
Miami Hgts. El.	4	2	4	4					8	6
Moton El. Δ †	3	2	5	2	2	1			10	5
Naranja El. †	4	0	6	1					10	1
Palmetto El. Θ	13	10	6	4					19	14
Perrine El. †	4	4	4	4					8	8
Pinecrest El.	12	4	6	3					18	7
Pine Villa El. †	3	3	3	3					6	6
Redland El.	3	3	1	1					4	4
Redondo El.	3	1	4	2					7	3
Richmond El. Δ	5	4	6	3	2	1			13	8
S. Miami Hgts. El.	8	8	10	10					18	18
W. Homestead El. Δ †	6	5	5	5					11	10
Whispering Pines El.	4	2	4	4					8	6
TOTALS	154	91 59%	169	116 69%	10	7 70%	01	01 100%	334	215 66%

* Note: Fully implemented systems classes were those that had seven systems components implemented out of seven components observed.

Legend: Δ = ESAA Schools
Θ = Quinmester Schools
† = Title I Schools

Comment I-B-6: All schools in the South administrative area had systems reading and math programs. In all, there were 334 systems installations in the area and 66% of them were fully implemented.

TABLE I-C

PERCENT OF DADE SYSTEMS
INSTALLATIONS WHICH WERE FULLY IMPLEMENTED

	TYPE SYSTEMS PROGRAMS		
	READING	MATHEMATICS	TOTAL READING AND MATHEMATICS
Total # of Installations	856	804	1660
# Fully Implemented	614	623	1237
Percent Fully Implemented	72%	78%	75%

Table I-C Presents the percent of Dade Systems programs which were fully implemented in relation to the total number of programs installed.

Comment I-C: Seventy-two percent of the Reading, 78 percent of the Mathematics and 75 percent of the total Dade Systems programs were fully implemented as of February, 1974.

TABLE I-D

COUNTY-WIDE DISTRIBUTION OF THE
NUMBER OF CLASSROOMS USING A SYSTEMS APPROACH
BY GRADE LEVEL AND BY TYPE SYSTEMS APPROACH

GRADE LEVEL(S) IN CLASS OBSERVED	NUMBER OF MATH CLASSES		NUMBER OF READING CLASSES		TOTAL DADE SYSTEMS CLASSES	TOTAL OTHER SYSTEMS CLASSES	TOTAL ALL SYSTEMS CLASSES
	DADE	OTHER	DADE	OTHER			
LAB - 000	06	00	21	02	27	02	29
K - 008	NA	NA	NA	NA	NA	NA	NA
001	NA	NA	NA	NA	NA	NA	NA
002	169	06	145	32	314	38	352
003	142	12	143	39	285	51	336
004	112	28	116	27	228	55	283
005	100	28	114	17	214	45	259
006	93	29	117	08	210	37	247
012	29	07	35	16	64	23	87
023	12	04	14	07	26	11	37
034	30	10	52	08	82	18	100
045	20	04	14	06	34	10	44
056	66	12	60	13	126	25	151
123	00	00	02	00	02	00	02
234	03	00	05	00	08	00	08
345	06	00	07	00	13	00	13
456	16	00	11	04	27	04	31
TOTAL CLASSES	804	140	856	179	1660	319	1979

LAB = 000 = Classes with more than three grade levels of pupils represented.

K = Kindergarten

Comment I-D: Most Dade County Systems programs were installed in classrooms containing pupils from a single grade level rather than in classrooms housing pupils from two or more grade levels. Also, there was a tendency to decrease the number of systems installations as the grade level increased.

Table II A

READING AND MATHEMATICS

ADJUSTED MEAN GAIN SCORES AND MEAN GAIN SCORE DIFFERENCE
COMPARISONS BETWEEN DADE SYSTEMS AND NON SYSTEMS PROGRAMS
BY GRADE LEVEL FOR BLACK, SPANISH AND OTHER PUPILS

	GRADE LEVELS	2			3			4			5			6		
		MEAN DADE SYSTEMS	MEAN NON SYSTEMS	MEAN DIFF.	MEAN DADE SYSTEMS	MEAN NON SYSTEMS	MEAN DIFF	MEAN DADE SYSTEMS	MEAN NON SYSTEMS	MEAN DIFF	MEAN DADE SYSTEMS	MEAN NON SYSTEMS	MEAN DIFF	MEAN DADE SYSTEMS	MEAN NON SYSTEMS	MEAN DIFF
READING	BLACK	(847) +.04	(1807) -.05	+.09	(736) .00	(1613) -.05	+.05	(834) +.06	(1886) -.06	+.12	(1005) +.05	(1685) -.05	+.10	(673) .00	(2254) -.07	+.07
	SPANISH	(334) +.16	(1774) .00	+.16	(854) +.10	(1797) .00	+.10	(863) -.05	(2442) .00	-.05	(888) -.02	(2454) +.05	-.07	(1193) +.05	(2644) .00	+.05
	OTHER	(1146) +.04	(2703) -.05	+.09	(1248) .00	(3062) .00	.00	(1622) +.01	(3494) -.04	+.05	(1727) +.16	(3398) -.04	+.20	(1640) +.04	(3717) -.04	+.08
	TOTAL	(2327) +.06	(6284) -.04	+.10	(2838) +.03	(6472) -.01	+.04	(3319) +.01	(7822) -.03	+.04	(3620) +.09	(7537) -.01	+.10	(3506) +.04	(8615) -.04	+.08
MATH	BLACK	(1353) -.02	(1807) -.01	-.03	(1438) .00	(1613) .00	.00	(1147) -.07	(1886) -.04	-.03	(1001) -.03	(1685) +.09	-.12	(1068) .00	(2254) .00	.00
	SPANISH	(548) -.07	(1774) +.05	-.12	(1027) -.08	(1797) .00	-.08	(910) -.15	(2442) +.10	-.25	(846) -.15	(2454) +.05	-.20	(950) +.06	(2644) .00	+.06
	OTHER	(1415) .00	(2703) .00	.00	(1246) +.03	(3062) +.05	-.02	(1465) .00	(3494) +.06	-.06	(1482) +.02	(3398) +.02	.00	(1325) -.05	(3717) +.06	-.11
	TOTAL	(3316) -.02	(6284) +.01	-.03	(3711) -.01	(6472) +.02	-.03	(3522) -.06	(7822) +.05	-.11	(3329) -.04	(7537) +.05	-.09	(3343) .00	(8615) +.02	-.02

Note 1: The mean scores shown are the ajusted differences [the fractional part of a year above (+) or below (-) grade level] between the average grade level actually obtained by pupils in a group in relation to what they were expected to obtain on the Stanford Achievement Test.

Note 2: The mean difference scores are the adjusted mean gain scores of Dade Systems pupils minus the adjusted mean gains scores of an equivalent group of Non Systems pupils.

Note 3: Total = the comparison of adjusted mean gain score differences between Dade Systems and Non Systems reading and math programs without regard to ethnicity for grades two through six.

Table II-A: Presents comparisons of adjusted mean gain scores and mean score differences between Dade Systems Reading and Mathematics programs and Non Systems reading and math programs.

Comment II-A: Reading--Total (all ethnic groups combined), Dade Reading Systems pupils achieved slightly higher (+) adjusted mean gain scores at grade levels two through six than did Non-Systems reading program pupils.

Black Dade Reading Systems Pupils achieved slightly higher (+) adjusted mean gain scores than their Non-Systems equivalents at grade levels two through six.

Spanish Dade Reading Systems pupils achieved slightly higher (+) adjusted mean gain scores at grade levels two, three and six and slightly lower (-) scores at grade levels three and four than did their Non-Systems counterparts.

Other Dade Reading Systems pupils achieved slightly higher (+) adjusted mean gain scores at grade levels two, four, five and six and equaled the scores of their Non Systems counterparts at grade three.

Mathematics--Total (all ethnic groups combined), Dade Mathematics Systems pupils achieved slightly lower (-) adjusted mean gain scores at grade levels two through six than did their Non Systems counterparts.

Black Dade Math Systems pupils achieved slightly lower (-) adjusted mean gain scores at grade levels two, four and five and equaled the scores of their Non-Systems counterparts at grade levels three and six.

Spanish Dade Math Systems pupils achieved slightly higher (+) adjusted mean gain scores at grade six and achieved slightly lower (-) scores at grade levels two, three, four and five than did their Non-Systems counterparts.

Other Dade Math Systems pupils achieved slightly lower (-) adjusted mean gain scores at grade levels three, four and six and equaled the scores of their Non Systems counterparts at grade levels two and five.

Table II-B

READING

ADJUSTED MEAN GAIN SCORES

	GRADE LEVELS	DADE READING SYSTEMS	NON-DADE READING SYSTEMS							
			WISCONSIN	HIGH INTENSITY	READ	CRITERION	FOUNTAIN VALLEY	APPLETON CENTURY CROFT	OTHER (TEACHER DESIGNED)	NON-SYSTEMS READING PROGRAMS
READING	2	(N=2327) +.06	NA	NA	(N=102) +.06	NA	NA	NA	NA	(N=6284) -.04
	3	(N=2838) +.03	NA	(N=536) +.05	(N=344) +.05	(N=123) -.03	NA	NA	NA	(N=6472) -.01
	4	(N=3319) +.01	NA	NA	(N=284) +.07	NA	NA	NA	NA	(N=7822) -.03
	5	(N=3620) +.10	NA	(N=501) +.26	NA	NA	NA	NA	NA	(N=7537) -.01
	6	(N=3506) +.04	NA	NA	NA	NA	NA	NA	NA	(N=8615) -.04

Note 1: An adjusted mean gain score is the achievement difference [the fractional part of a year above (+) or below (-) grade level] between the average grade level actually obtained by pupils in a group in relation to what they were expected to obtain on the Stanford Reading Achievement test.

Note 2: NA appears where there were insufficient data for making valid comparisons.

Table II-B: Presents comparisons of the adjusted mean gain reading scores among the Dade Reading System, various types of Non Dade Reading Systems (commercial and teacher designed) and the Non Systems Reading programs, grades two through six.

Comment II-B: Pupils who received their reading instruction through the use of the Dade Reading System achieved slightly above (+) expectation for grade levels (two-six). High Intensity pupils achieved slightly above (+) expectations at grade three and five with insufficient data (NA) for comparison purposes at grades two, four, and six. READ pupils achieved slightly above (+) expectations at grades two-four and there were insufficient data (NA) for making valid comparison at grades five and six. The Criterion program afforded sufficient data for valid comparisons at the third grade level only, where pupils achieved slightly below (-) expectations. The remaining commercial systems, Wisconsin, Fountain Valley and Appleton Century Croft along with the Other, Teacher Designed systems lacked sufficient data for making valid comparisons.

Table II-C

READING
ADJUSTED MEAN GAIN SCORES

		ETHNICITY OF PUPILS	DADE READING SYSTEMS	NON-DADE READING SYSTEMS							
				WISCONSIN	HIGH INTENSITY	READ	CRITERION	FOUNTAIN VALLEY	APPLETON CENTURY CROFT	OTHER (TEACHER DESIGNED)	NON-SYSTEMS READING PROGRAMS
GRADE 2	READING	Black	(N= 847) +.04	(N= 91) +.18	(N= 297) -0.11	(N= 34) * .00	(N= NA	(N= NA	(N= NA	(N= NA	(N= 1807) -.05
		Spanish	(N= 334) +.16	(N= NA	(N= NA	(N= 35 -.30	(N= NA	(N= NA	(N= NA	(N= NA	(N= 1774) .00
		Other	(N= 1146) +.04	(N= 174) +.13	(N= NA	(N= 33) +.50	(N= NA	(N= 24) .00	(N= NA	(N= NA	(N= 2703) -.05
		Total	(N= 2327) +.06	(N= NA	(N= NA	(N= 102) +.06	(N= NA	(N= NA	(N= NA	(N= NA	(N= 6284 -.04
GRADE 3	READING	Black	(N= 736) .00	(N= NA	(N= 375) +.10	(N= 161) +.10	(N= 51) * -.07	(N= NA	(N= NA	(N= NA	(N=1613) -.05
		Spanish	(N= 854) +.10	(N= NA	(N= 86) * -.20	(N= 82) .00	(N= 26) -.20	(N= NA	(N= NA	(N= 23) * +.10	(N=1797) .00
		Other	(N= 1248) .00	(N= 87) +.09	(N= 75) * +.10	(N= 101) .00	(N= 46) * +.10	(N= NA	(N= NA	(N= 79) * +.10	(N=3062) .00
		Total	(N= 2838) +.03	(N= NA	(N= 536) +.05	(N= 344) +.05	(N= 123) -.03	(N= NA	(N= NA	(N= NA	(N=6472) -.01
GRADE 4	READING	Black	(N= 834) +.06	(N= 23) * -.26	(N= 352) -.10	(N= 152) * +.20	(N= 51) * -.16	(N= NA	(N= NA	(N= NA	(N=1886) -.06
		Spanish	(N= 863) -.05	(N= NA	(N= 81) .00	(N= 43) -.10	(N= NA	(N= NA	(N= NA	(N=46) * -.30	(N=2442) .00
		Other	(N=1622) +.01	(N= 104) * -.10	(N= NA	(N= 89) +.10	(N=56) *+.10	(N= NA	(N= NA	(N=32) * +.10	(N=3494) -.04
		Total	(N=3319) +.01	(N= NA	(N= NA	(N= 284) +.07	(N= NA	(N= NA	(N= NA	(N= NA	(N=7822) -.03
GRADE 5	READING	Black	(N= 1005) +.05	(N= NA	(N= 350) +.39	(N= NA	(N= NA	(N= NA	(N= 27) * -.20	(N= NA	(N=1685) -.05
		Spanish	(N= 888) -.02	(N= NA	(N= 130) -.10	(N= 29) 0.0	(N= NA	(N= NA	(N= 57) * .00	(N= NA	(N=2454) +.05
		Other	(N= 1727) +.16	(N= NA	(N= 21) +.30	(N=64) * -.30	(N= NA	(N= NA	(N= NA	(N= NA	(N=3398) -.04
		Total	(N= 3620) +.10	(N= NA	(N= 501 +.26	(N= NA	(N= NA	(N= NA	(N= NA	(N= NA	(N=7537) -.01
GRADE 6	READING	Black	(N= 673) .00	(N= NA	(N= 150) -.10	(N= 65) * +.30	(N= 24) * +.40	(N= NA	(N= NA	(N= NA	(N=2254) -.07
		Spanish	(N=1193) +.05	(N= NA	(N= 84) -.20	(N= NA	(N= NA	(N= NA	(N= NA	(N=44) * -.30	(N=2644) .00
		Other	(N=1640) +.04	(N= NA	(N= NA	(N= 54) * +.50	(N= 133) * +.20	(N=34 -.30	(N= NA	(N= NA	(N=3717) -.04
		Total	(N=3506) +.04	(N= NA	(N= NA	(N= NA	(N= NA	(N= NA	(N= NA	(N= NA	(N=8615) -.04

Note 1: An adjusted mean gain score is the difference [fractional part of a year above (+) or below (-) grade level] between the average grade level actually obtained by pupils in a group in relation to what they were expected to obtain on the Stanford Reading achievement test.

Table II-C (Continued)

Note 2: NA appears where data were insufficient for making valid comparisons.

Note 3: An asterisk indicates that while this analysis was county-wide in scope, the data in the cells containing an asterisk were obtained from only one or two schools thereby limiting generalizability.

Table II-C: Presents a comparison of the adjusted mean gain in reading achievement for Black, Spanish and Other pupils involved in the Dade Reading System, Non Dade Reading Systems (commercial or teacher designed) and Non Systems reading instruction programs.

Comment II-C: Black pupils involved in the Dade Reading System achieved above (+) expectation at grade levels two, four and five and as well as expected at grades three and six. Wisconsin Program Black pupils achieved above (+) expectation at grade four with insufficient data (NA) at grades three, five and six. High Intensity Black pupils achieved above (+) expectation at grades three and five and below (-) expectation at grades two, four and six. READ Program Black pupils achieved above (+) expectation at grades three, four and six, as expected at grade two with (NA) at grade six. Criterion Program Black pupils achieved below (-) expected at grades three and four with (NAs) at grades two, five and six. There were insufficient numbers of pupils (NA) involved in the Fountain Valley and Teacher Designed Systems Programs to afford data for valid comparisons. Appleton Century Croft Black pupils achieved below (-) expectation at grade five, the only grade level where there were sufficient comparative data. Black pupils involved in Non-Systems reading programs scored below (-) expectation at grade levels two-six.

Spanish pupils involved in the Dade Reading System achieved above (+) expectation at grade levels two, three and six and below (-) expectation at grades four and five. High Intensity Spanish pupils achieved below (-) expectation at grade levels three, five and six, as expected for grade four with (NA) at grade two. READ Spanish pupils achieved below (-) expectation at grade levels two and four, as well as expected at grades three and five with insufficient data (NA) at grade six. Criterion Spanish pupils achieved below (-) expectation at grade three, the only grade level for which there were sufficient comparative data. Appleton Century Croft Spanish pupils achieved as well as expected at grade five, , the only grade level where there were sufficient data for making valid comparisons. Pupils involved with other (Teacher Designed) programs achieved above (+) expectation at grade three, below (-) expectation at grade levels four and six, with (NA) at grades two and five. Spanish pupils who were not involved in a systems reading program (Non-Systems Reading Program), achieved above (+) expectation at grade five, and as well as expected at grade levels two, three, four and six.

Other pupils, all pupils other than Black or Spanish Language Origin, who were involved with the Dade Reading System achieved above (+) expectation at grade levels two, four, five and six, and as well as expected at grade three. Wisconsin Program Other pupils achieved above (+) expectations at grade levels two and three, below (-) expectation at grade four with (NAs) at grade levels five and six. High Intensity Other pupils achieved above

(+) expectation at grade levels three and five, the only grade levels where there were sufficient comparative data. READ Program Other pupils achieved above (+) expected at grade levels two, four and six, below (-) expected at grade five and as well as expected at grade three. Criterion Other pupils achieved above (+) expectation at grade levels three, four and six, the only grade levels for which there were sufficient comparative data. Fountain Valley Other pupils achieved below (-) expectation at grade six, as well as expected at grade two with insufficient data at grade levels three through five. Other pupils who were involved in Teacher Designed systems reading programs achieved above (+) expectation at grade levels three and four with insufficient data (NA) at grade levels two, five and six. Other pupils who were not taught reading skills through involvement in a system reading program (Non Systems Reading Program pupils) achieved below (-) expectations for grade levels two through six.

Table II-D

MATHEMATICS

ADJUSTED MEAN GAIN SCORES

	GRADE LEVELS	DADE MATH SYSTEMS	NON-DADE MATH SYSTEMS				NON-SYSTEMS MATH PROGRAMS
			INDIVIDUALIZED MATH SYSTEMS	INDIVIDUALIZED PROGRAM OF INSTRUCTION	APPLETON CENTURY CROFT	OTHER (TEACHER DESIGNED)	
MATHEMATICS	2	(N=3316) -.02	NA	NA	NA	NA	(N=6284) +.01
	3	(N=3771) -.01	NA	NA	NA	NA	(N=6472) +.02
	4	(N=3522) -.06	(N=607) .00	NA	NA	NA	(N=7882) +.05
	5	(N=3329) -.04	(N=767) -.04	NA	NA	NA	(N=7537) +.05
	6	(N=3343) .00	(N=924) .00	NA	NA	NA	(N=8614) +.02

Note 1: An adjusted mean gain score is the difference [the fractional part of a year above (+) or below (-)] between the average grade level actually obtained by pupils in a group in relation to what they were expected to obtain on the Stanford Mathematics Achivement test.

Note 2: NA appears where there were insufficient data for making valid comparisons.

Table II-D: Presents a comparison of the adjusted mean gain math scores among the Dade Math System, various types of Non Dade Math Systems (commercial and Teacher Designed) and the Non Systems Math programs grades two through six.

Comment II-D: Pupils who received their mathematics instruction through the use of the Dade Math System achieved slightly below (-) expectation for grade levels two and five, and as well as expected for grade six; whereas, pupils in Non Systems Math Programs achieved slightly above (+) expectation at grade levels two through six. The only Non Dade Math System with sufficient county-wide participation for across systems comparisons was the Individualized Math System (IMS). IMS pupils scored as well as expected in grades four and six and below (-) expectation in grade five.

Table II-E

MATHEMATICS

ADJUSTED MEAN GAIN SCORES

		Ethnicity of Pupils	DADE MATH SYSTEMS	NON-DADE MATH SYSTEMS				NON-SYSTEMS MATH PROGRAMS
				INDIVIDUALIZED MATH SYSTEMS	INDIVIDUALIZED PROGRAM OF INSTRUCTION	APPLETON CENTURY CROFT	OTHER (TEACHER DESIGNED)	
GRADE 2	MATHEMATICS	Black	(N= 1353) -.02	(N= NA	(N= NA	(N= NA	(N= NA	(N=1807) -.01
		Spanish	(N= 548) -.07	(N= NA	(N= NA	(N= NA	(N= NA	(N=1774) +.05
		Other	(N=1415) .00	(N= 132) +.16	(N= NA	(N= NA	(N= NA	(N= 2703) .00
		Total	(N=3316) -.02	(N= NA	(N= NA	(N= NA	(N= NA	(N= 6284) +.01
GRADE 3	MATHEMATICS	Black	(N= 1438) .00	(N= NA	(N= NA	(N= 81) * +.03	(N= NA	(N=1613) .00
		Spanish	(N= 1027) -.08	(N= NA	(N= NA	(N= NA	(N= NA	(N=1797) .00
		Other	(N= 1246) +.03	(N= 188) -.38	(N= 40) * +.80	(N= NA	(N= NA	(N=3062) +.05
		Total	(N= 3771) -.01	(N= NA	(N= NA	(N= NA	(N= NA	(N= 6472) +.02
GRADE 4	MATHEMATICS	Black	(N= 1147) -.07	(N= 88) +.29	(N= NA	(N= 92) * -.30	(N= NA	(N=1886) -.04
		Spanish	(N= 910) -.15	(N= 115) +.29	(N= NA	(N= 24) * -.30	(N= NA	(N=2442) +.10
		Other	(N=1465) .00	(N= 404) -.14	(N= 58) * +.30	(N= NA	(N= NA	(N=3494) +.06
		Total	(N=3522) -.06	(N= 607) .00	(N= NA	(N= NA	(N= NA	(N= 7822) +.05
GRADE 5	MATHEMATICS	Black	(N= 1001) -.03	(N= 62) -.32	(N= NA	(N= 57) * +.20	(N= NA	(N=1685) +.09
		Spanish	(N= 846) -.15	(N=184) -.35	(N= NA	(N= NA	(N= NA	(N=2454) +.05
		Other	(N=1482) +.02	(N=521) +.10	(N= 53) * +.20	(N= NA	(N= 39) +.01	(N=3398) +.02
		Total	(N=3329) -.04	(N=767) -.04	NA	NA	NA	(N=7537) +.05
GRADE 6	MATHEMATICS	Black	(N= 1068) .00	(N= 234) +.27	(N= NA	(N= 50) *+1.20	(N= NA	(N=2254) .00
		Spanish	(N= 950) +.06	(N= 132) -.19	(N= NA	(N= NA	(N= NA	(N=2644) .00
		Other	(N=1325) -.05	(N= 558) -.07	(N=93) *+0.60	(N= NA	(N= NA	(N=3717) +.06
		Total	(N=3343) .00	(N= 924) .00	(N= NA	(N= NA	(N= NA	(N=8614) +.02

Note 1: An adjusted mean gain score is the difference [fractional part of a year above (+) or below (-) grade level] between the average grade level actually obtained by pupils in a group in relation to that which they were expected to obtain on the Stanford Mathematics achievement test.

Table II-E (Continued)

Note 2: NA appears where data were insufficient for making valid comparisons.

Note 3: An asterisk indicates that while this analysis was county-wide in scope, the data in the cells containing an asterisk were obtained from only one or two schools thereby limiting generalizability.

Table II-E: Presents a comparison of the adjusted mean gain in math achievement for Black, Spanish, and Other pupils involved in the Dade math system, non Dade math systems (commercial or teacher designed) and non systems math instruction programs.

Comment II-E: Black pupils involved in the Dade Mathematics System achieved below (-) expectation at grade levels two, four and five and as well as expected at grade levels three and six. Individualized Math System Black pupils achieved above (+) expectation at grade levels four and six with insufficient comparative data at grade levels two and three. Appleton Century Croft Black pupils achieved above (+) expectation for grade levels three, five and six, below (-) expectation at grade four with insufficient comparative data (NA) at grade two. Black pupils who were not taught mathematics skills through involvement in a systems math program (Non System Math Programs) achieved above (+) expectation at grade five, below expectation at grade levels two and four and as well as expected at grade levels three and six.

Spanish pupils involved in the Dade Mathematics System achieved below (-) expectation at grade levels two, three, four and five and as well as expected at grade six. Individualized Math Systems Spanish pupils achieved above (+) expectation at grade three, below (-) expectation at grade levels five and six with insufficient comparative data (NA) at grade levels two

and three. Appleton Century Croft Spanish pupils achieved below (-) expectation at grade four, the only grade level for which there were sufficient comparative data. Spanish pupils who were not taught mathematics skills through involvement in a systems math program (Non-Systems Math Program) achieved above (+) expectation for grade levels two, four and five and as well as expected at grade levels three and six.

Other pupils, all pupils other than Black or Spanish, who were involved with the Dade Mathematics System, achieved above (+) expectation at grade levels three and five, below expected at grade six and as well as expected at grade levels two and four. Individualized Math Systems Other pupils achieved above (+) expectation at grade levels three, four and six. Individualized Program of Instruction Other pupils achieved above (+) expectation at grade levels three, four, five and six with insufficient comparative data at grade two. Teacher designed systems math program Other pupils achieved above (+) expected at grade five the only grade level where there were sufficient comparative data. Other pupils who were not taught math skills through involvement in a systems math program (Non-Systems Math Program) achieved above (+) expectation at grade levels three, four, five and six and as well as expected at grade two.

APPENDIX A

PLANNING INVENTORY FOR READING SYSTEMS APPROACH:

PROCEDURAL SUGGESTIONS

1. DIAGNOSTIC DATA HAS BEEN RECORDED ON GROUP OR INDIVIDUAL PROFILES ◯ YES ◯ NO

   If both of the following conditions are in effect, check YES; if not, check NO.

   a) Each child has an individual profile and/or each child's name is on a class chart.
   b) Some diagnostic data is recorded for each child whose name is on the profile chart.

2. ASSESSMENT MATERIALS AND/OR ANSWER SHEETS ARE IN EVIDENCE ◯ YES ◯ NO

   If new and/or used assessment materials and/or answer sheets are observable either in the systems classrooms or in some central storage place within the school, check YES. If not, check NO.

3. INDIVIDUAL ACTIVITIES AND/OR TEACHER DIRECTED INSTRUCTIONAL ACTIVITIES ARE BASED ON DIAGNOSTIC INFORMATION ◯ YES ◯ NO

   Locate a teacher directed group. Select one pupil and attempt to relate his activity to recorded diagnostic data. If this is possible, mark YES and go on to the next item.

   If no, select a child working independently, either alone or in a group and attempt to relate his or her activity to recorded diagnostic data. If this is possible, mark YES and go on to the next item. If not, try up to two more children working at different activities within the room.

   If the answer is still "no", ask the teacher the following question: How do you provide for the development of specific skills? If the teacher's answer incorporates: a relationship between diagnosis of specific skills and instruction, a means for provision of materials to meet diagnosed needs, and a plan for providing appropriate instruction and/or materials to the student, mark YES. If not, mark NO and go on to the next item.

4. PUPILS WORKING INDEPENDENTLY ON ASSIGNED TASKS ARE ABLE TO SUCCESSFULLY PERFORM THE TASK. ◯ YES ◯ NO

   Select a pupil working independently and determine if he or she is successfully performing the task, as substantiated by one or more of the following indicators:
   a) child can read the material he is working on with ease.

b) he is successfully completing the task by supplying generally appropriate responses.
c) the child can vocally relate what he is doing.
If no, try up to two more children working at different activities within the room. If the answer is still no, mark the item NO and go on to the next question.

5. THERE IS EVIDENCE OF ORGANIZED PUPIL ACTIVITY ◯ YES ◯ NO

If the following general condition exists, check YES. If not, check NO.

During the period of observation, pupils will change from one activity to another without significantly disrupting the instructional pattern of the classroom.

6. PROVISION FOR IMMEDIATE FEEDBACK ON PUPILS' INDEPENDENT WORK IS IN EVIDENCE ◯ YES ◯ NO

If one or both of the following conditions exist check YES. If not, check NO.

a) Children are checking their own work.
b) Aides, volunteers or peers are available to check work upon completion.

7. THERE IS EVIDENCE OF REGULAR LIBRARY AND TRADE BOOK READING ◯ YES ◯ NO

If two or more children in the room are reading library or trade books mark YES.

If no, look around the room for a record of the number of library or trade books the pupils have read. If such a record is found, mark YES. If no, mark NO.

PLANNING INVENTORY FOR MATHEMATICS SYSTEMS APPROACH:

PROCEDURAL SUGGESTIONS

1. DIAGNOSTIC DATA HAS BEEN RECORDED ON GROUP OR INDIVIDUAL PROFILES ◯ YES ◯ NO

   If both of the following conditions are in effect, check YES; if not, check NO.

   a) Each child has an individual profile and/or each child's name is on a class chart.
   b) Some diagnostic data is recorded for each child whose name is on the profile and/or chart.

2. PLACEMENT AND/OR LEVEL TESTS ARE IN EVIDENCE ◯ YES ◯ NO

   If new and/or used placement booklets and/or level tests are observable either in the systems classrooms or in some central storage place within the school, check YES. If not, check NO.

3. INDIVIDUAL ACTIVITIES AND/OR TEACHER DIRECTED INSTRUCTIONAL ACTIVITIES ARE BASED ON DIAGNOSTIC INFORMATION ◯ YES ◯ NO

   Locate a teacher directed group. Select one pupil and attempt to relate his activity to recorded diagnostic data. If this is possible, mark YES and go on to the next item.

   If no, select a child working independently, either alone or in a group and attempt to relate his or her activity to recorded diagnostic data. If this is possible, mark YES and go on to the next item. If not, try up to two more children working at different activities within the room.

   If the answer is still "no", ask the teacher the following question: How do you provide for the development of specific skills? If the teacher's answer incorporates: a relationship between diagnosis of specific skills and instruction, a means for provision of materials to meet diagnosed needs, and a plan for providing appropriate instruction and/or materials to the student, mark YES. If not, mark NO and go on to the next item.

4. PUPILS WORKING INDEPENDENTLY ON TASKS ASSIGNED ARE ABLE TO SUCCESSFULLY PERFORM THE TASK. ◯ YES ◯ NO

   Select a pupil working independently and determine if he or she is successfully performing the task, as substantiated by one or more of the following indicators:
   a) he is successfully completing the task by supplying generally appropriate responses.

b) the child can vocally relate what he is doing.
If no, try up to two more children working at different activities within the room. If the answer is still no, mark the item NO and go on to item five.

5. THERE IS EVIDENCE OF ORGANIZED PUPIL ACTIVITY ◯ YES ◯ NO

If the following general condition exists, check YES. If not check NO.

During the period of observation, pupils will change from one activity to another without significantly disrupting the instructional pattern of the classroom.

6. PROVISION FOR IMMEDIATE FEEDBACK ON PUPILS' INDEPENDENT WORK IS IN EVIDENCE ◯ YES ◯ NO

If one or both of the following conditions exist check YES. If not, check NO.

a) Children are checking their own work.
b) Aides, volunteers or peers are available to check work upon completion.

7. THERE IS EVIDENCE OF LEARNING CENTERS ◯ YES ◯ NO

If a location exists (temporarily or permanently) which has the following minimal characteristics mark YES. If not, mark NO.

a) is accessible to pupils.
b) contains material, equipment and/or supplies which have been assembled for specific instructional purpose(s).
c) will accommodate a single pupil or cluster of pupils working independently or a group of pupils under direct supervision.

APPENDIX B

TEACHER'S NAME _____ SCHOOL NAME _____

DADE READING SYSTEM PUPIL INFORMATION RETRIEVAL FORM

SCHOOL NUMBER AREA	SCHOOL #	SCHOOL S.E.S.	TEACHER NUMBER	SYSTEMS TRAINING	TYPE CLASSROOM	GRADE LEVEL	IMPL	TYPE SYSTEM
				1 SUMMER (72) 2 (73), 3 OTHER ( )	1 (OPEN-SPACE) 2 (SELF-CONTAINED)		YES NO	
CC 8	CC 9-12	CC 14-17	CC 61-66	CC 68	CC 70	CC 72-74	CC 76	CC 79-80

PLEASE PRINT THE ALS NUMBER AND THE PUPIL'S NAME • PRINT LAST NAME AND FIRST AND MIDDLE INITIAL

CC 1-7	CC 20-44	CC 1-7	CC 20-44	CC 1-7	CC 20-44
ALS #	NAME	ALS #	NAME	ALS #	NAME

SPACE FOR ADDITIONAL NAMES ON THE OTHER SIDE

47 53

TEACHER'S NAME _____ _____ SCHOOL NAME

DADE MATHEMATICS SYSTEM PUPIL INFORMATION RETRIEVAL FORM

SCHOOL NUMBER AREA	SCHOOL #	SCHOOL S.E.S.	TEACHER NUMBER	SYSTEMS TRAINING	TYPE CLASSROOM	GRADE LEVEL	IMPL	TYPE SYSTEM
CC 8	CC 9-12	CC 14-17	CC 61-66	1 SUMMER (72) 2 (73), 3 OTHER ( )	CC 68	1 (OPEN-SPACE) 2 (SELF-CONTAINED) CC 70	CC 72-74	YES NO CC 76	CC 79-80

PLEASE PRINT THE ALS NUMBER AND THE PUPIL'S NAME • PRINT LAST NAME AND FIRST AND MIDDLE INITIAL

CC 1-7 ALS #	CC 20-44 NAME

CC 1-7 ALS #	CC 20-44 NAME

CC 1-7 ALS #	CC 20-44 NAME

SPACE FOR ADDITIONAL NAMES ON THE OTHER SIDE

TEACHER'S NAME _____ SCHOOL NAME _____

OTHER READING SYSTEM PUPIL INFORMATION RETRIEVAL FORM

SCHOOL NUMBER AREA	SCHOOL #	SCHOOL S.E.S.	TEACHER NUMBER	SYSTEMS TRAINING	TYPE CLASSROOM	GRADE LEVEL	IMPL	TYPE SYSTEM
				1 SUMMER (72) 2 (73), 3 OTHER ( )	1 (OPEN-SPACE) 2 (SELF-CONTAINED)		YES NO	
CC 8	CC 9-12	CC 14-17	CC 61-66	CC 68	CC 70	CC 72-74	CC 76	CC 79-80

PLEASE PRINT THE ALS NUMBER AND THE PUPIL'S NAME • PRINT LAST NAME AND FIRST AND MIDDLE INITIAL

CC 1-7 ALS #	CC 20-44 NAME	CC 1-7 ALS #	CC 20-44 NAME	CC 1-7 ALS #	CC 20-44 NAME

SPACE FOR ADDITIONAL NAMES ON THE OTHER SIDE

TEACHER'S NAME _____ _____ SCHOOL NAME

OTHER MATHEMATICS SYSTEM PUPIL INFORMATION RETRIEVAL FORM

SCHOOL NUMBER AREA	SCHOOL #	SCHOOL S.E.S.	TEACHER NUMBER	SYSTEMS TRAINING	TYPE CLASSROOM	GRADE LEVEL	IMPL	TYPE SYSTEM
				1 2 3 SUMMER (72) (73), OTHER ( )	1 2 (OPEN-SPACE) (SELF-CONTAINED)		YES NO	
CC 8	CC 9-12	CC 14-17	CC 61-66	CC 68	CC 70	CC 72-74	CC 76	CC 79-80

PLEASE PRINT THE ALS NUMBER AND THE PUPIL'S NAME • PRINT LAST NAME AND FIRST AND MIDDLE INITIAL

CC 1-7	CC 20-44
ALS #	NAME

CC 1-7	CC 20-44
ALS #	NAME

CC 1-7	CC 20-44
ALS #	NAME

SPACE FOR ADDITIONAL NAMES ON THE OTHER SIDE

APPENDIX C

COST ANALYSES OF SYSTEMS PROGRAMS

Preface

It should be clearly understood that the various reading and mathematics systems for which costs have been analyzed are different in many ways and may not be viable substitutes for one another in certain circumstances. Cost effectiveness comparisons, then, are not possible.

Based upon available price lists, bids and discussions with school board employees familiar with the various systems, costs of implementation in a hypothetical elementary school (i.e., 600 pupils and 30 pupils per class) were analyzed on two assumptions:

1. That the system would be implemented on a laboratory basis (one laboratory for each 150 students); and
2. That the system would be implemented in individual classrooms.

Because both consumable and non-consumable materials are involved, costs were calculated for each system as follows:

1. Total six year costs; and
2. Average annual cost per pupil.

Exhibit A summarizes the costs of the various systems considered, while Exhibit B summarizes the resources included in the cost of each system.

Both High Intensity and READ System contain instructional materials while the other reading systems do not. Similarly, IMS includes instructional materials while the Dade County Mathematics System does not.

Exhibits C-H identify costs of detailed components of each system.

Qualifications

1. Estimates of the useful life of nonconsumable items had to be used as well as estimates of the average rate at which students completed levels within a system. Such estimates were obtained from persons familiar with the systems;
2. A school selecting a system which does not include instructional materials may or may not have to purchase cross-referenced materials depending on the extent to which they are already available in that school.

EXHIBIT A

SUMMARY OF COMPARATIVE COSTS

	Four Laboratories		20 Self Contained Classes	
	Total Six Year Costs *	Average Annual Cost Per Pupil	Total Six Year Costs *	Average Annual Cost Per Pupil
Reading Systems:				
Dade County Systems	$1,151.24	$ .32	$ 1,170.60	$ .33
READ System	9,404.00	2.67	13,070.00	3.75
Wisconsin Design for Reading Skill Development	2,143.75	.40	3,338.50	.62
High Intensity Learning System - Reading	19,608.14	5.46	NA **	NA **
Mathematics:				
Dade County Systems	1,997.40	.55	2,504.28	.70
Individualized Mathematics System	13,528.86	3.77	NA **	NA **

* Based upon a hypothetical school of 600 pupils and 30 pupils per class

** Cost of using IMS/High Intensity on an individual classroom basis would be prohibitive and, therefore, was not considered.

EXHIBIT B

COMPARISON OF RESOURCES INCLUDED
IN VARIOUS SYSTEM COSTS

	Reading Systems			
	Dade County	Read	Wisconsin	High Intensity
Placement Tests	yes	yes	no	yes
Pre-tests	yes	yes	yes	yes
Post-tests	yes	yes	yes	yes
Skills Cross-Referenced to Instructional Materials	yes	yes	no *	yes
Pupil Progress/Profile Material	yes	yes	yes	yes
Group Profile	yes	yes	no	yes
Teacher Manuals	yes	yes	yes	yes
Instructional Materials	no	yes	no	yes **
Equipment	no	no	no	no
Comprehension Component	yes	yes	yes	yes
Decoding Component	yes	yes	yes	yes
Other (described):				
Pattern Resources Phonics Kit	-	yes	-	-

	Mathematics Systems	
	Dade County	(IMS) Individualized Mathematics Systems
Placement Tests	yes	yes
Pre-tests	yes	yes
Post-tests	no ***	yes
Skills Referenced to Instructional Materials	yes	yes
Pupil Progress/Profile Material	yes	yes
Teacher Manuals	yes	yes
Instructional Materials	no	yes
Group Profile	yes	no

* Contains a resource file which offers teacher hints for each skill.

** High Intensity may be purchased without instructional materials; however, it is generally purchased with cross-referenced materials.

*** Pre-test used for post-test.

EXHIBIT C

DADE SYSTEMS - READING

	Four Laboratories		20 Self Contained Classes	
	Total Six Year Costs	Average Annual Cost Per Pupil	Total Six Year Costs	Average Annual Cost Per Pupil
Comprehension Placement Tests and Answer Sheets	$ 252.00	$ .07	$ 252.00	$ .07
Decoding Placement Tests	18.00	.01	18.00	.01
Partial & Total A, Booklets	60.00	.02	60.00	.02
Partial & Total B, Booklets	54.00	.02	54.00	.02
Skillpack 1 A, Booklets	80.00	.02	80.00	.02
Skillpack 1 B, Booklets	80.00	.02	80.00	.02
Skillpack L 2, Booklets	156.00	.04	156.00	.04
Answer Booklet 1 A	30.00	.01	30.00	.01
Answer Booklet 1 B	30.00	.01	30.00	.01
Answer Booklet L 2	42.00	.01	42.00	.01
Answer Keys	4.84	-	24.20	.01
Group Profile Charts	332.40	.09	332.40	.09
Pupil Profile Cards	12.00	-	12.00	-
	$1,151.24	$ .32	$1,170.60	$ .33

EXHIBIT D

READ SYSTEM

(American Book Company)

	Four Laboratories		20 Self Contained Classes	
	Total Six Year Costs	Average Annual Cost Per Pupil	Total Six Year Costs	Average Annual Cost Per Pupil
Screening Placement Tests	$ 43.20	$ .01	$ 43.20	$ .01
Keysort Materials	36.72	.01	183.60	.05
Keysort Cards	720.00	.20	720.00	.20
Objectives and Skills	259.20	.07	216.00	.06
Checkup Tests	1,953.00	.54	1,953.00	.54
Pre/Post-tests	104.49	.03	104.49	.03
Independent Reading Activities	285.93	.08	285.93	.08
Little Read Books	95.04	.03	475.20	.13
Pattern Resources Phonics Kits	90.96	.05	227.40	.13
Skill Books	4,140.00	1.15	4,140.00	1.15
Textbooks	520.56	.15	3,380.40	.94
Read Roundup Kit	131.22	.07	196.83	.11
Teacher Text	120.00	.03	210.00	.06
Teacher Skills Books	40.00	.01	70.00	.02
Paper	864.00	.24	864.00	.24
	$9,404.00	$2.67	$13,070.05	$3.75

EXHIBIT E

WISCONSIN DESIGN FOR READING SKILL DEVELOPMENT

(Wisconsin Research & Development Center for Cognitive Learning)

	Four Laboratories		20 Self Contained Classes	
	Total Six Year Costs	Average Annual Cost Per Pupil	Total Six Year Costs	Average Annual Cost Per Pupil
Comprehension (Grades 1-6):				
Starter Kits	$ 330.75	$ .09	$1,323.00	$ .37
Rational/Guidelines	12.00		64.00	.02
Planning Guides	--	.01	--	
Resource Files	16.00		--	
Pupil Profile Cards	165.00	.05	120.00	.03
Pre/Post-tests (spirit masters)	444.00	.12	444.00	.13
Test Administration Manuals	8.00		40.00	
Paper for Spirit Masters	324.00	.09	324.00	.09
	$1,299.75	$ .36	$2,315.00	$ .64
Decoding (Grades 1-3 only):				
Specimen Kits	$ 9.00	$ .01	$ 45.00	$ .03
Profile cards	32.00	.02	32.00	.02
Pre/Post-test (spirit masters)	454.80	.25	454.80	.25
Planning Guides	4.00	-	20.00	.01
Resource Files	85.00	.05	212.50	.12
Paper for spirit masters	259.20	.14	259.20	.14
	$ 844.00	$ .47	$1,023.50	$ .57
	$2,143.75	$ .40 *	$3,338.50	$ .62 *

* Represents an average of the cost per pupil for the comprehension and decoding components weighted by the number of pupils served by the component.

EXHIBIT F

HIGH INTENSITY LEARNING SYSTEM - READING

(Random House)

	Four Laboratories		20 Self Contained Classes	
	Total Six Year Costs	Average Annual Cost Per Pupil	Total Six Year Costs	Average Annual Cost Per Pupil
Complete K-12 Units	$ 3,630.00	$ 1.01		
Basic Test of Reading Comprehension	1,356.00	.38		
Check-in Test Pads	--			
I.O. Catalog	--			
Check Test Booklets	--			
Check Test Vocabulary Booklet	--			
Check Test Cassettes	--			
Student File Folders	203.40	.06		
Student Record Booklet	162.72	.05		
Student Record Form	--			
Check-out Tests	--			
Progress Plotter	--			
Achievement Awards (not replaced)	--			
Wall Charts (1 per year per class of 30)	144.00	.04		
Door Sign	--			
Lapboard	--			
Instructional Managers Guide	--			
Conversion Chart	--			
Laminated Pages	2,112.00	.59		
Textbooks, instructional materials	12,000.00	3.33		
	$19,608.14	$5.46	NA **	NA **

** Cost of using High Intensity on an individual classroom basis would be prohibitive and, therefore, was not considered.

EXHIBIT G

DADE SYSTEMS - MATHEMATICS

	Four Laboratories		20 Self Contained Classes	
	Total Six Year Costs	Average Annual Cost Per Pupil	Total Six Year Costs	Average Annual Cost Per Pupil
Placement Tests	$ 37.92	$ .01	$ 37.92	$ .01
Level Tests	1,134.00	.32	1,134.00	.32
Student Profile Booklets	698.76	.19	698.76	.19
Class Profile Chart	48.96	.01	244.80	.07
Teacher Guide/Binder	77.76	.02	388.80	.11
	$1,997.40	$ .55	$2,504.28	$ .70

EXHIBIT H

INDIVIDUALIZED MATHEMATICS SYSTEM

(Ginn and Company)

	Four Laboratories		20 Self Contained Classes	
	Total Six Year Costs	Average Annual Cost Per Pupil	Total Six Year Costs	Average Annual Cost Per Pupil
Initial Cost of Level-Boxes	$ 8,392.00	$2.33		
Placement Tests	384.00	.11		
Replacements:				
Level I Pre/Post-tests	406.00	.11		
Level II-IX Pre/Post-tests	2,470.50	.69		
IMS pencils	916.66	.26		
Record-forms Masters	520.00	.14		
Activity Sheets	239.70	.07		
Teacher Training Sheets	200.00	.06		
	$13,528.86	$3.77	NA *	NA *

* Cost of using IMS on an individual classroom basis would be prohibitive and, therefore, was not considered.